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EXAMINER

TSOY, ELENA

ART UNIT PAPER NUMBER

1762

DATE MAILED: 03/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/892,480

Applicant(s)

COLOMBO ET AL.

Examiner

Elena Tsoy

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 34-66 is/are pending in the application.
- 4a) Of the above claim(s) 49-66 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 34-38, 40-42, 44, 45, 47 and 48 is/are rejected.
- 7) ☒ Claim(s) 39, 43 and 46 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Response to Amendment

1. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

Claims 34-66 are pending in the application. Claims 49-66 are withdrawn from consideration as directed to a non-elected invention.

Specification

2. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 34-36, 44, 45, 47, 48 are rejected under 35 U.S.C. 102(b) as being anticipated by Tate et al (US 3,956,214).

Tate et al disclose a method for continuously introducing (See column 1, lines 47-48, 59-60) a liquid curing agent (a substance in liquid phase) (See column 3, lines 28-30) into

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polyethylene pellets (plastics granules) comprising the steps of: a) feeding a substantially continuous flow of said plastics granules to at least one substantially static spraying chamber, b) spraying said liquid substance using injectors 22 supported in the spraying chamber (See column 3, lines 30-31) onto the plastics granules continuously flowing within said spraying chamber, c) passing the granules partially or totally coated by said liquid substance continuously leaving the spraying chamber through static off-set helical means 21 (mixing bars) supported in a mixing chamber provided downstream of said spraying chamber, so as to submit said granules to mixing and consequential defusion of the liquid curing agent into the plastics granules (See Fig. 1, column 3, lines 28-51), d) submitting the mixed granules so obtained to the cooling zone 13 and transferring the granules to a storage tank 46 (See Fig. 2; column 4, lines 34-42) (i.e. drying for a time sufficient to allow a substantially complete absorption of the liquid substance by the granules). The off-set helical means 21 comprise at least two superimposed groups of mixing bars arranged substantially perpendicularly with one other (See Fig. 3).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 38, 41, 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tate et al (US 3,956,214).

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As to claim 38, Tate et al fail to teach that the droplets of liquid material have a mean diameter of 10-500 microns.

The droplet size is a result-effective parameter in a coating process since too large droplets will cause particles to agglomerate, too small droplets will not coat the particles efficiently.

It is held that it is not inventive to discover the optimum or workable ranges of result-effective variables by routine experimentation. In re Antonie, 559 F.2d 618, 195 USPQ 6 (CCPA 1977). See also In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have determined the optimum values of the relevant droplet parameters (including those of claim 38) in a method of Tate et al through routine experimentation in the absence of a showing of criticality.

As to claim 41, Tate et al further teach that liquid curing agents penetrate and diffuse into the pellets at a higher rate when the surfaces of the pellets are softened than when the pellet surfaces are in a non-softened state (See column 3, lines 68+). Tate et al also teach that as would be obvious to one skilled in the art, the higher the working temperature, the shorter the requisite mixing time. However, when the requisite mixing time is shortened by raising the working temperature, the working temperature must not be so high that the curing agent penetrates and diffuses into the pellets before it is uniformly dispersed throughout the pellets which can cause lack of uniformity in the concentration of curing agent penetrating into individual pellets. Further, if the working temperature is set too near the softening point of polyethylene the pellets tend to cohere into lumps before or during agitation. See column 4, lines 22-33. In other words,

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the steps a)-d) should be carried out at a temperature comprised between the melting temperature of the curing agent and the minimum temperature between the softening temperature of the polymer to be impregnated and the temperature at which the substance in liquid phase starts to thermally deteriorate.

As to claim 42, Tate et al fail to teach that the spraying b) and mixing c) steps are carried out in a total time comprised between 10 and 40 minutes and that said drying step d) is carried out in a time comprised between 30 and 90 minutes.

It is well known in the art that spraying, mixing and drying time is result-effective process parameter.

It is held that it is not inventive to discover the optimum or workable ranges of result-effective variables by routine experimentation. In re Antonie, 559 F.2d 618, 195 USPQ 6 (CCPA 1977). See also In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have determined the optimum values of the relevant process parameters (including those of claim 42) in Tate et al through routine experimentation in the absence of a showing of criticality

7. Claim 40 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tate et al (US 3,956,214) in view of Wentzel (US 4,832,497).

Tate et al further show that the pellets are introduced into the spraying chamber (having injectors 22) through helical element 21 so that the pellets follow two flow paths before entering the spraying chamber (See column 3, lines 9-23, 33-35). However, Tate et al do not expressly show that each flow channel faces one of plurality of injectors.

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It is the Examiner's position that it is within ordinary engineering skills to supply each flow path with an injector for better covering, as shown by Wentzel.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have provided each flow path of pellets in Tate et al with a spraying injector 22 so that each flow path of pellets faces one of plurality of injectors with the expectation of providing the desired better covering, as shown by Wentzel.

Allowable Subject Matter

8. Claims 39, 43, 46 stand objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims for the reasons of record as set forth in Paragraph No. 5 of the Office Action mailed on April 25, 2003 (Paper No. 17).

Response to Arguments

9. Applicant's arguments with respect to claims 34-38, 40-42, 47, 48 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elena Tsoy whose telephone number is (571) 272-1429. The examiner can normally be reached on Mo-Thur. 9:00-7:30.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shrive Beck can be reached on (571) 272-1415. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Elena Tsoy
Examiner
Art Unit 1762

March 4, 2004